

Shingles
 Herpes zoster
 Varicella zoster virus

Other Diagnostic Techniques

PCR: Highly sensitive and specific method for VZV diagnosis. No cross-reactivity to other herpesviruses.

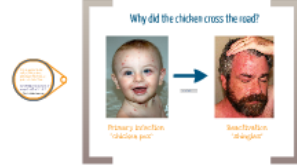
HSV: Most sensitive of viral culture techniques. Culture is more sensitive than PCR for VZV but less sensitive for herpes zoster.

Latent: Latent infection. Virus may be detected in peripheral blood mononuclear cells.

Herpes: Herpes virus particles seen with EM as a percentage of 100% sensitivity. Many host immune responses.

Direct: Direct immunofluorescence (DIF) or immunohistochemistry (IHC) of affected cells.

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Shingles: the numbers behind it

- Incidence of herpes zoster: 14 per 1000 person-years
- Age is the most important risk factor
- Complications of herpes zoster increase with age
- 1/3 of immunocompetent hosts will experience a clinical episode of herpes zoster

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What can feel like chicken pox in the adult?

- Shingles
- Herpes
- Scabies
- Cellulitis
- Impetigo
- Staphylococcal infection
- Herpes zoster

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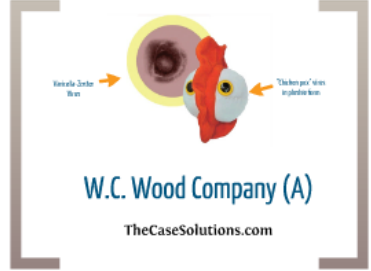
Acute

Acute inflammation is characterized by the presence of neutrophils. It is a response to tissue injury or infection. It is the first line of defense against pathogens and is essential for healing.

Learning Objectives

- Identify risk factors for VZV reactivation
- Explain why herpes zoster is more common among the elderly
- List the three most common symptoms that provide clue to the herpes zoster
- Describe the progression of lesions from reactivation to healing
- Name the most common complication of herpes zoster infection
- Identify four categories of approach to the treatment of herpes zoster

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The Wrath Girdles Post-herpetic neuralgia

Chronic: Persistent

Pain along the affected dermatome that lasts 3 months after the rash has healed

More common in women

Coldest backbones: 1/3 of VZV with neural burning with Age ↑ [10]

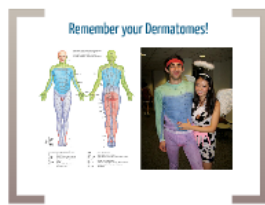
Prevalence increases with age, often found in craniocaudal neural burning (herpes)

Case 1: An 89-year-old gentleman comes to you complaining of fatigue, malaise, a low-grade fever, and a left-sided headache and "shooting" left-sided eye pain that began two days ago. What are you most worried this could be?

Physical Exam

CT Scan

Lumbar Puncture



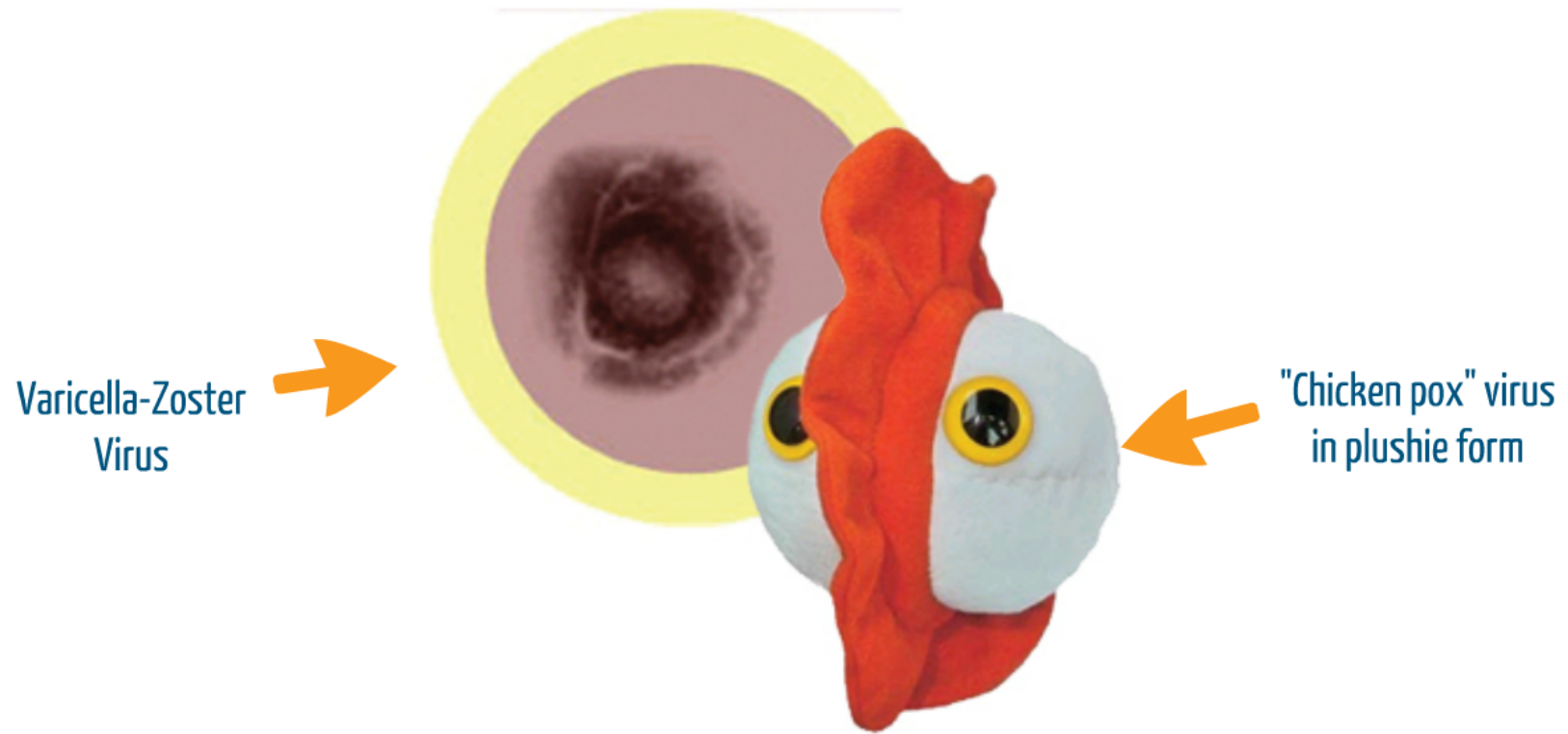
Herpes Zoster: More than Meets the Eye

Case 2: An 89-year-old woman presents to you with left-sided eye pain, conjunctivitis, and tearing, and a skin eyelid rash that started five days ago. You diagnose her with herpes zoster ophthalmicus. How will you manage her?

- refer her to an ophthalmologist
- acyclovir + ampicillin
- acyclovir + prednisone
- acyclovir only
- a + c
- a + d
- none of the above

References

1. Herpes zoster ophthalmicus and the herpes zoster virus. *BMJ*. 2002;325(7280):1100-1101.
2. Herpes zoster ophthalmicus. *BMJ*. 2002;325(7280):1100-1101.
3. Herpes zoster ophthalmicus. *BMJ*. 2002;325(7280):1100-1101.
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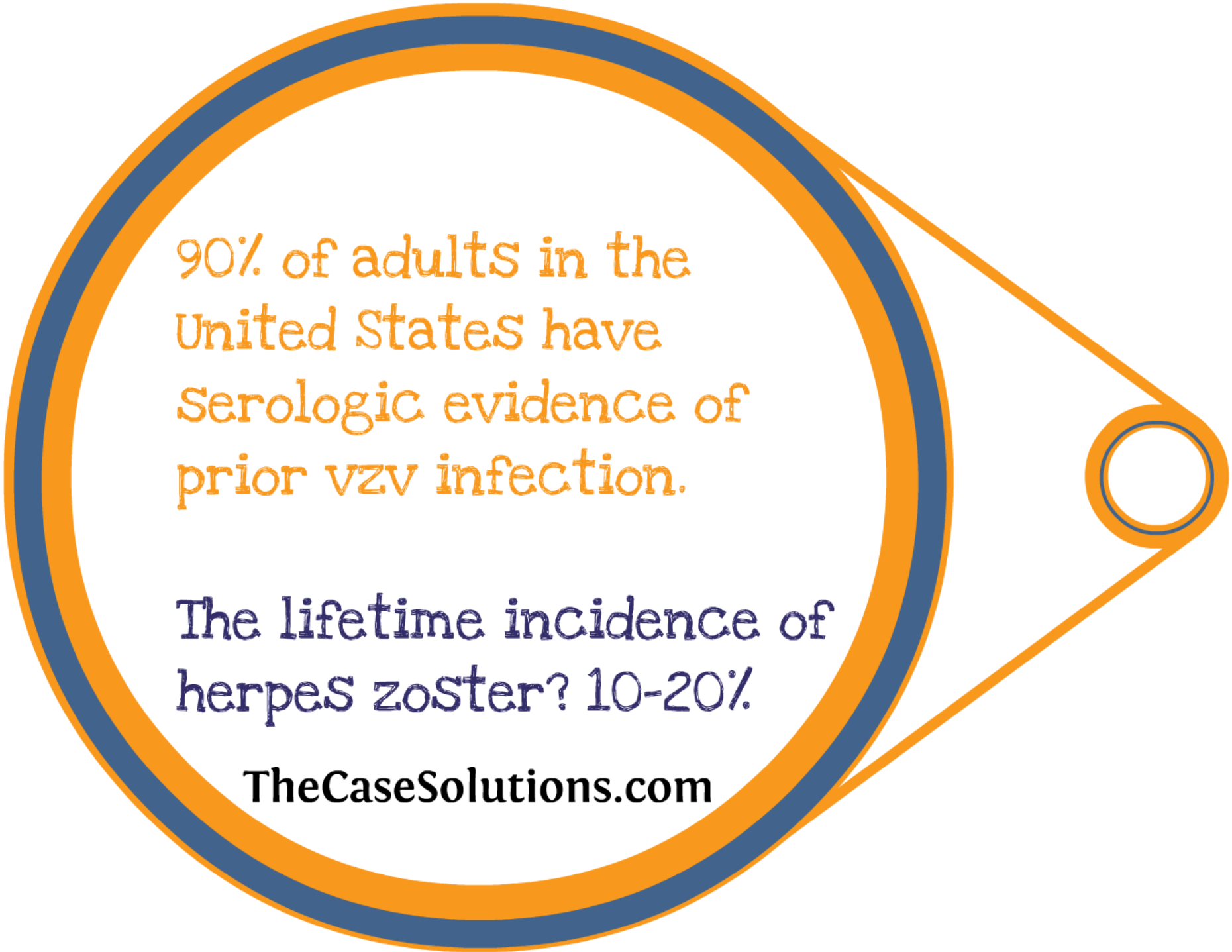
W.C. Wood Company (A)

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Learning Objectives

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- Identify risk factors for VZV reactivation
- Explain why herpes zoster is more common among the elderly
- List the three most common symptoms that precede skin lesions in herpes zoster
- Identify the progression of lesions from initial reactivation to healing
- Name the most common complication of herpes zoster infection
- Identify four categories of approach to the treatment of herpes zoster



90% of adults in the
United States have
serologic evidence of
prior VZV infection.

The lifetime incidence of
herpes zoster? 10-20%

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Shingle5: the numbers behind it

- Incidence of herpes zoster: 3.6 per 1000 person-years [One million cases annually]

- Age is the most important risk factor

Herpes zoster incidence increases 10-fold between children less than 10 years, and adults 80-89 years
50% of persons living until age 85 will have had an episode of herpes zoster

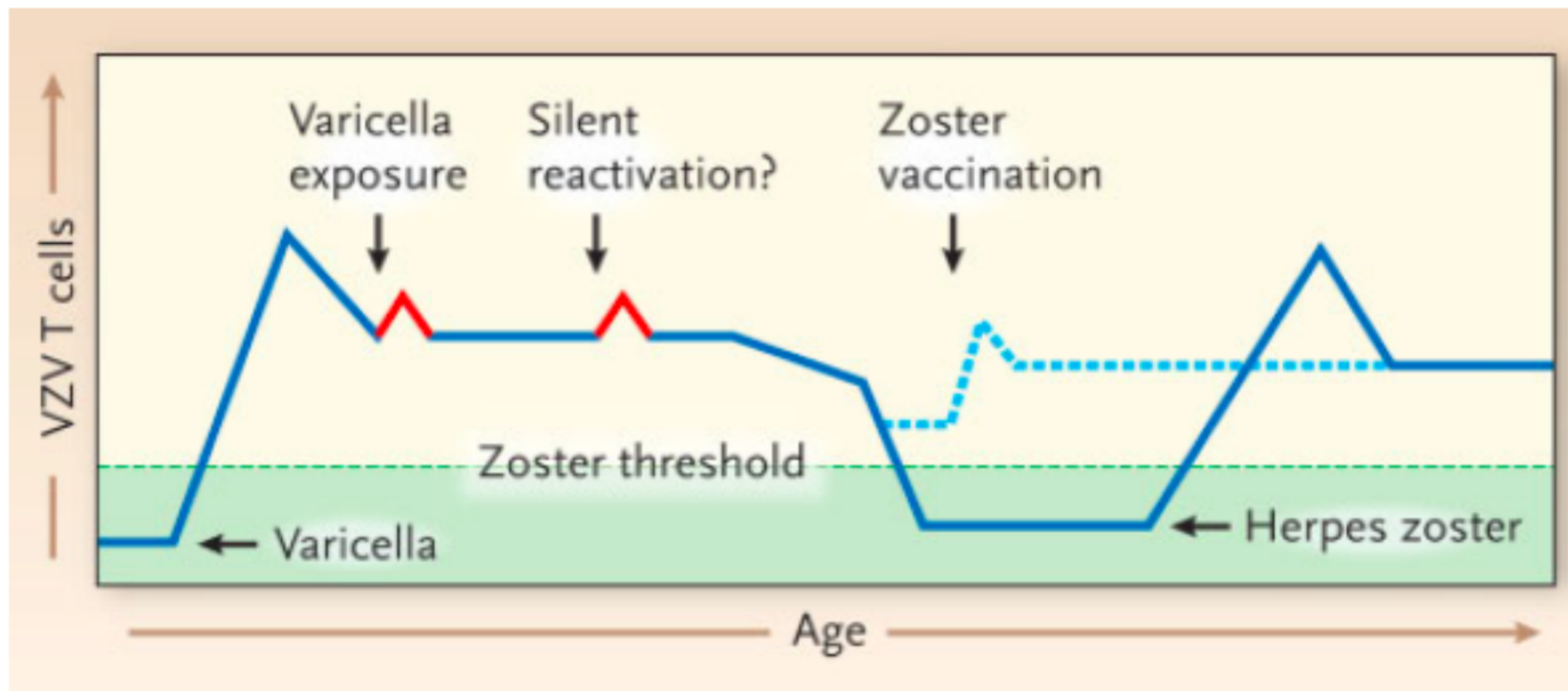
- Complications of herpes zoster increases with age

Risk for experiencing post-herpetic neuralgia increased 27x among individuals >50 years compared to those <50 years

- 1-4% of immunocompetent hosts will experience a second episode of herpes zoster

But is age just a number?

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VZV takes advantage of waning immunity:

- Resolution of "chicken pox" associates with specific memory-T cell induction
- These memory T cells decline with age

Other risk factors:

- Neoplastic disease
- Immunosuppression

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- Transplant recipients
- HIV infection

What came first, the chicken or the...rash?

The Prodrome:

- Pain
- Itchiness
- Tingling
- nonspecific symptoms (fatigue, low grade fever, etc)

Precede skin lesions by 1-5 days

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Other Diagnosis Techniques

PCR: sample obtained from skin lesions sensitive (92%) + specific, no cross-reactivity to other viruses

DFA: from scrapings of skin lesions; cheaper than a culture; turn around time: 1.5 hrs; detects both VZV and HSV; widely available

Culture: less sensitive than PCR; declining sensitivity if lesions passed vesicular stage

Serologic testing: many false positives; some use it as a screening of VZV susceptibility among healthcare workers

Tzanck smear: sampled from scraped lesion; simple, inexpensive; cannot differentiate between VZV or other herpesviruses